CLAIMS

1. A buoyancy-driven power generation system comprising:

a plurality of magnet capsules;

a containment loop, said loop comprising a buoyancy section and a gravitational section;

said buoyancy section comprising a lower elevation portion and an upper elevation portion;

said gravitational section comprising a capsule holding section and a slide-and-fall section;

a capsule injector operative to receive a magnet capsule from said slide-and-fall section and introduce said magnet capsule into said buoyancy section; and

a coil configured to allow passage of said magnet capsules therethrough;

whereby movement of said magnet capsule through said coil generates electric power.

2. The buoyancy-driven power generation system of claim 1 wherein said capsule injector comprises a first gate and a second gate.

3. The buoyancy-driven power generation system of claim 1 wherein said capsule injector comprises a first chamber, first ball valve, second chamber, and a second ball valve.

4. A method of generating electric power, said method comprising:

introducing a magnet capsule into a first portion of a containment loop;

allowing said magnet capsule to move within said first portion due to buoyancy force; and

inducing electric power through the movement of said magnet capsule through said first portion.

5. The method of generating electric power of claim 4 wherein said first portion is filled with fluid.

6. The method of generating electric power of claim 4, further comprising the act of placing said magnet capsule in a capsule injector.

7. The method of generating electric power of claim 4 wherein said capsule is moved through at least a second portion of said loop via gravity.

8. The method of generating electric power of claim 7 wherein said magnet capsule is pushed via the collective weight of a plurality of magnet capsules.

9. A method of generating electric power, said method comprising:

providing an elongated tube, at least one portion of said tube containing fluid;

providing at least one coil module proximate at least one portion of said tube;

introducing a magnet capsule to said fluid filled portion;

allowing said magnet capsule to move through said fluid filled portion due to buoyancy force; and

inducing electric power through the movement of said magnet capsule proximate said coil module in proximity to a non-filled portion of pipe.

10. An apparatus for generating electric power using buoyancy, said apparatus comprising:

a containment loop;

a liquid filled portion of said loop having a lower elevation portion and a higher elevation portion;

a plurality of coil modules surrounding said liquid filled portion; and

a plurality of buoyant magnet capsules operative to move from said lower elevation portion to said higher elevation portion.

11. The apparatus for generating electric power of claim 10, further comprising a substantially non-filled portion of said loop connected with said liquid filled portion of pipe.

12. The apparatus for generating electric power of claim 11 wherein said non-liquid filled portion is connected with said higher elevation portion.

13. The apparatus for generating electric power of claim 10, further comprising a capsule injector connected with said lower elevation potion.

14. The apparatus for generating electric power of claim 10, further comprising a refill pipe connected with said liquid filled portion.

15. A capsule injector for a buoyancy driven system for generating electric power, comprising:

an enclosed area having a first gate and a second gate, said area operable to fully contain a magnet capsule;

said first gate having an elevation lower than said second gate and being operative to receive a capsule from a waiting area containing at least one capsule;

said second gate having an elevation higher than said second gate and being operative to allow liquid to enter said enclosed area;

16. A capsule injector for a buoyancy driven system for generating electric power, comprising:

a first chamber containing liquid and a first ball;

a second chamber containing liquid and a second ball; and

an electric valve for transferring fluid between said first chamber and said second chamber.

17. A magnet capsule for use in a buoyancy driven system, comprising:

a magnet;

a low density material surrounding said magnet; and

a casing surrounding said magnet and low density material;

wherein said magnet capsule is buoyant in a liquid filled space.

18. A method of generating electric power, said method comprising:

providing at least one buoyant magnetic capsule and at least one coil;

introducing said capsule into a lower portion of a fluid-filled area;

allowing said magnetic capsule to rise through said fluid; and

directing said capsule proximate said coil to induce current flow in said coil.

19. The method of claim 18 further comprising the act of returning said capsule to a lower portion via gravity.

20. The method of claim 19 further comprising the act of providing a first flowpath for said capsule through said fluid and proximate said coil.

21. The method of claim 20 wherein said flowpath further comprises a tubular member at least partially filled with a fluid.

22. The method of claim 21 further comprising the act of providing a second flowpath for said capsule to said lower portion of said fluid.

23. The method of claim 22 wherein said first and second flowpaths are connected together to form a continuous loop.